

OBJECT-ADDRESSED MEMORY HIERARCHY THAT FACILITATES ACCESSING OBJECTS STORED OUTSIDE OF MAIN MEMORY

ABSTRACT

One embodiment of the present invention provides an object-addressed memory hierarchy that is able to access objects stored outside of main memory. During operation, the system receives a request to access an object, wherein the request includes an object identifier for the object that is used to reference the object within the object-addressed memory hierarchy. Next, the system uses the object identifier to retrieve an object table entry associated with the object. The system then examines a valid bit within the object table entry. If the valid bit indicates the object is located in main memory, the system uses a physical address in the object table entry to access the object in main memory. On the other hand, if the valid bit indicates that the object is not located in main memory, the system relocates the object into memory from a location outside of memory, and then accesses the object in main memory.